

REMARKS

REJECTIONS UNDER 35 U.S.C. § 102

Claims 11-13, 15, 22, 23, 25, and 26 were rejected under 35 U.S.C § 102(b) as being unpatentable over U.S. Patent No. 4,817,085 issued to De Prycker (*De Prycker*). Applicant submits that claims 11-13, 15, 22, 23, 25, and 26 are not anticipated by *De Prycker* for at least the reasons described below.

Independent claim 11 recites:

- a. receiving a packet;
- b. reading information in the packet and ascertaining therefrom a delay incurred by the packet in traversing the network;
- c. comparing the delay ascertained to **a dynamically adapted** optimal delay; and
- d. delaying use of the packet to reconstruct a signal by a calculated amount sufficient to make the calculated amount plus the ascertained delay substantially equal to the optimal delay.

Thus, Applicant claims comparing a packet's delay in traversing the network to a dynamically adapted optimal delay and delaying use of the packet to reconstruct a signal by a calculated amount sufficient to make the calculated amount plus the ascertained delay substantially equal to the optimal delay. Independent claim 15 similarly recites subjecting each packet to a calculated delay that equals a dynamically adapted delay minus a network delay.

Though not responsive to part (c) of claim 11, the Office Action cites *De Prycker* as disclosing the invention as claimed by Applicant in claim 11. *De Prycker* discusses delays in a packet switching network and says the following: "the first packet DP0 is submitted to a total delay $T_2 = t_o + T_m$ and ... **all the following packets DP1, ...are subjected to the same delay.**"

(Emphasis added). In subjecting all packets to the same delay, *De Prycker* explicitly teaches away from Applicant's claim 11, which recites a **dynamically adapted** optimal delay. *De Prycker* does not discuss or disclose a dynamically adapted optimal delay. Therefore, Applicant submits that claims 11 and 15 are not anticipated by *De Prycker*.

Claims 12 and 13 depend from claim 11. For at least the reason that dependent claims include the limitations of the claims from which they depend, Applicant respectfully submits that claims 12 and 13 are not anticipated by *De Prycker*.

The Office Action cites *De Prycker* as disclosing the limitations of Applicant's claim 22. Specifically, the Office Action cites column 6, line 30 of *De Prycker* and states, "the probability density function is generated in response to the first packet DP0." In contrast, Applicant's claim 22 recites a probability distribution function **updated in response to receipt and processing of selected ones of each of the packets**. *De Prycker* states that all of the packets subsequent to DP0 "are subjected to the same delay" (see column 4, lines 11-14). *De Prycker* does not teach or suggest a probability distribution function updated in response to receipt and processing of selected ones of each of the packets as claimed by Applicant. Therefore, Applicant submits that claim 22 is not anticipated by *De Prycker*.

Claims 23, 25, and 26 depend from claim 22. For at least the reason that dependent claims include the limitations of the claims from which they depend, Applicant respectfully submits that claims 23, 25, and 26 are not anticipated by *De Prycker*.

Claims 16 and 17 were rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent Application Publication No. 2002/0191645A1 published by Lauret (*Lauret*). Applicant submits that claims 16 and 17 are not unpatentable over *Lauret* for at least the reasons described below.

Independent claim 16 recites:

receiving a first packet at a receiving gateway;
fixing any synchronization error between a transmitting gateway and the receiving gateway to a reasonable value of a delay said packet experienced in traversing a network; and
setting a clock at said receiving gateway to a value equal to a time stamp contained within said first packet plus said reasonable value.

Thus, Applicant claims that by assigning a reasonable value of a delay that a first packet experiences while traversing a network and setting the clock at the receiving gateway based on this reasonable delay, any synchronization error between the clocks at the two gateways will be fixed.

The Office Action cites *Lauret* as disclosing the limitations of claim 16. *Lauret* discusses *compensating* for error between the number of pulses in the SRTSreceived and SRTSlocal clocks, which expressly contradicts the fixation of synchronization error claimed by Applicant in claim 16. *Lauret* does not teach or discuss the fixing of synchronization error between clocks. Therefore, Applicant submits that claim 16 is not anticipated by *Lauret*.

Claim 17 depends from claim 16. For at least the reason that dependent claims include the limitations of the claims from which they depend, Applicant respectfully submits that claim 17 is not anticipated by *Lauret*.

REJECTIONS UNDER 35 U.S.C. § 103

Claims 1-10 and 24 were rejected under 35 U.S.C. § 103(a) as being unpatentable over *De Prycker*. Applicant submits that claims 1-10 and 24 are not rendered obvious in view of *De Prycker* for at least the reasons described below.

Independent claim 1 recites:

a plurality of storage locations for storing packets received from a network;

a system for dynamically calculating a probability distribution associated with network delays for plural packets; and

a CPU for calculating, based upon said dynamically calculated probability distribution, a delay associated with each storage location, and for causing a packet in each storage location to be transmitted out of the storage location after an amount of time equal to the delay associated with the storage location.

Thus, Applicant claims the dynamic calculation of a probability distribution associated with network delays.

The Office Action states that *De Prycker* “calculates the probability density function based upon the delay required for proper transmission through the network.” This concept is discussed in the background section of Applicant’s specification. (See Specification, page 3, line 19 – page 4, line 2). *De Prycker* does not teach or suggest the **dynamically** calculated probability distribution claimed by Applicant in claim 1. Therefore, Applicant submits that claim 1 is not obvious in view of *De Prycker*.

Claims 2-4 depend from claim 1. For at least the reason that dependent claims include the limitations of the claims from which they depend, Applicant respectfully submits that claims 2-4 are not rendered obvious by *De Prycker*.

Regarding claim 5, Applicant claims a CPU that calculates, upon receipt of every Nth packet of data, a dynamically adapted optimal delay beyond which a packet will be lost. *De Prycker* is cited as disclosing that when a whole packet DPK does not arrive in time it is discarded (column 4, lines 65-66). Whether or not *De Prycker* teaches the limitation cited in the Office Action, it does not teach the calculating of a **dynamically adapted** optimal delay beyond which a packet will be lost, as claimed by Applicant. Therefore, Applicant submits that claim 5 is not rendered obvious by *De Prycker*.

Claims 6-10 depend from claim 5. For at least the reason that dependent claims include the limitations of the claims from which they depend, Applicant respectfully submits that Claims 6-10 are not obvious in view of *De Prycker*.

Regarding claim 24, the Office Action states that *De Prycker* does not disclose a signal processor as programmed to use a recursive algorithm. Applicant agrees that *De Prycker* does not disclose this limitation. The Office Action goes on to say that *De Prycker* does teach a system where the delay is calculated based upon a predetermined probability that the errors in delayed packets are always less than a predetermined value which is based on the network delay. Whether or not *De Prycker* teaches this limitation, *De Prycker* does not teach or suggest a probability distribution function **updated in response to receipt and processing of selected ones of each of the packets** as claimed by Applicant in claim 22. Claim 24 depends from claim 22. Therefore, Applicant submits that claim 24 is not obvious in view of *De Prycker*.

Claims 18 and 19 were rejected under 35 U.S.C. 103(a) as being unpatentable over *Lauret* in view of *De Prycker*. Applicant submits that claims 18 and 19 are not obvious in view of *Lauret* and *De Prycker* for at least the reasons described below.

Claims 18 and 19 depend from claim 16. As discussed above in relation to claim 16, *Lauret* does not disclose the fixing of synchronization error between a transmitting gateway and a receiving gateway as claimed by Applicant in claim 16. Furthermore, *De Prycker* is cited as disclosing a system where the delay is calculated based upon a predetermined probability that the errors in the delayed packets are always less than a predetermined value (column 2, lines 3-6). Whether or not *De Prycker* teaches the limitation cited in the Office Action, *De Prycker* does not teach or disclose the fixing of synchronization error between a transmitting gateway and a receiving gateway by assigning a reasonable value of a delay and setting the clock at the

receiving gateway based on this reasonable delay. These limitations are cited in claim 16. Thus, *De Prycker* fails to cure the deficiencies of *Lauret*. Therefore, Applicant respectfully submits that no combination of *Lauret* and *De Prycker* renders claims 18 and 19 obvious.

Claim 20 was rejected under 35 U.S.C. 103(a) as being unpatentable over *Lauret* in view of *De Prycker* in further view of U.S. Patent No. 4,817,085 issued to Agrawal, et al. (*Agrawal*). For at least the reasons described below, Applicant submits that claim 20 is not rendered obvious by *Lauret* and *De Prycker* in view of *Agrawal*.

Claim 20 depends from claim 16 and therefore includes the limitations of claim 16. As discussed above, *Lauret* and *De Prycker* do not disclose the fixing of synchronization error between a transmitting gateway and a receiving gateway by assigning a reasonable value of a delay and setting the clock at the receiving gateway based on this reasonable delay. *Agrawal* is cited as disclosing a synchronization system for networked multimedia streams which calculates the buffer delay for a packet based upon its pointer in a point list (column 4, lines 19-22). Whether or not *Agrawal* teaches the limitations cited in the Office Action, *Agrawal* does not disclose the fixing of synchronization error between a transmitting gateway and a receiving gateway by assigning a reasonable value of a delay and setting the clock at the receiving gateway based on this reasonable delay as claimed by Applicant in claim 16. Therefore, *Agrawal* does not cure the deficiencies of *Lauret* and *De Prycker*. Thus, Applicant respectfully submits that no combination of *Lauret*, *De Prycker*, and *Agrawal* renders claim 20 obvious.

CONCLUSION


For at least the foregoing reasons, Applicants submit that the rejections have been overcome. Therefore, claims 1-26 are in condition for allowance and such action is earnestly solicited. The Examiner is respectfully requested to contact the undersigned by telephone if such

contact would further the examination of the present application. Applicants have included a copy of all claims in the attached index for the Examiner's convenience.

Please charge any shortages and credit any overcharges to our Deposit Account number 02-2666.

Respectfully submitted,
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Date: 12/22/03



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